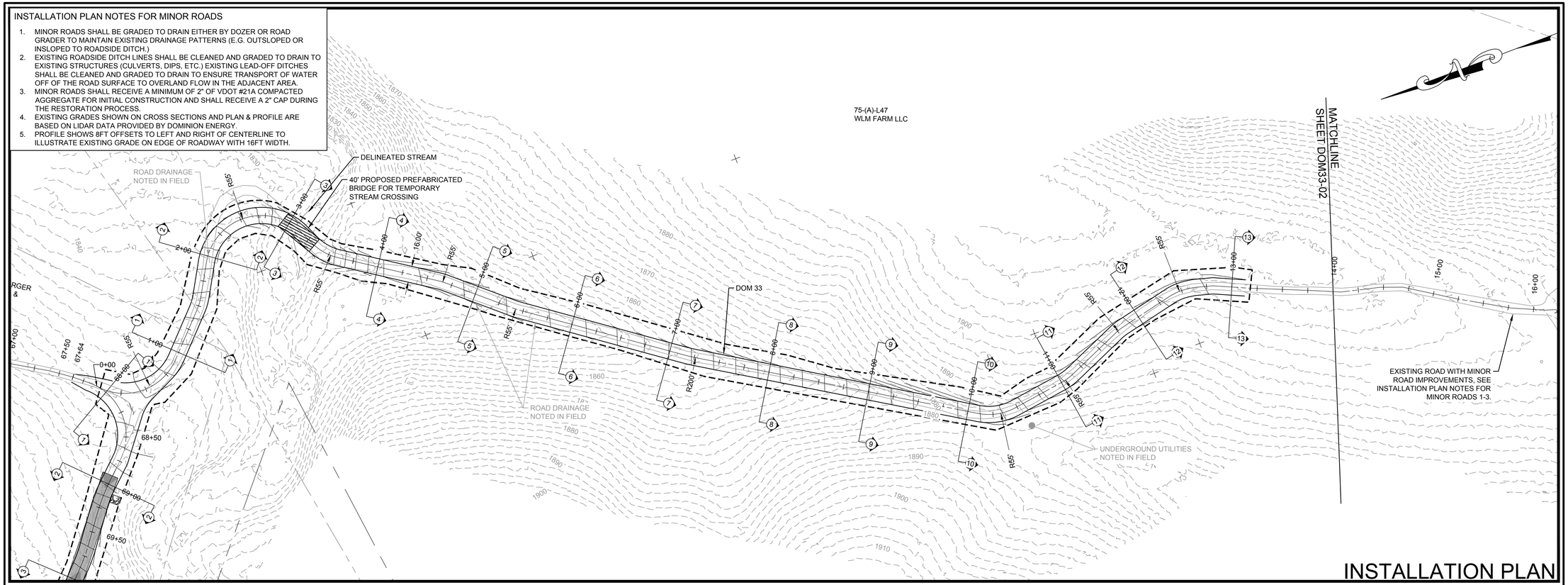
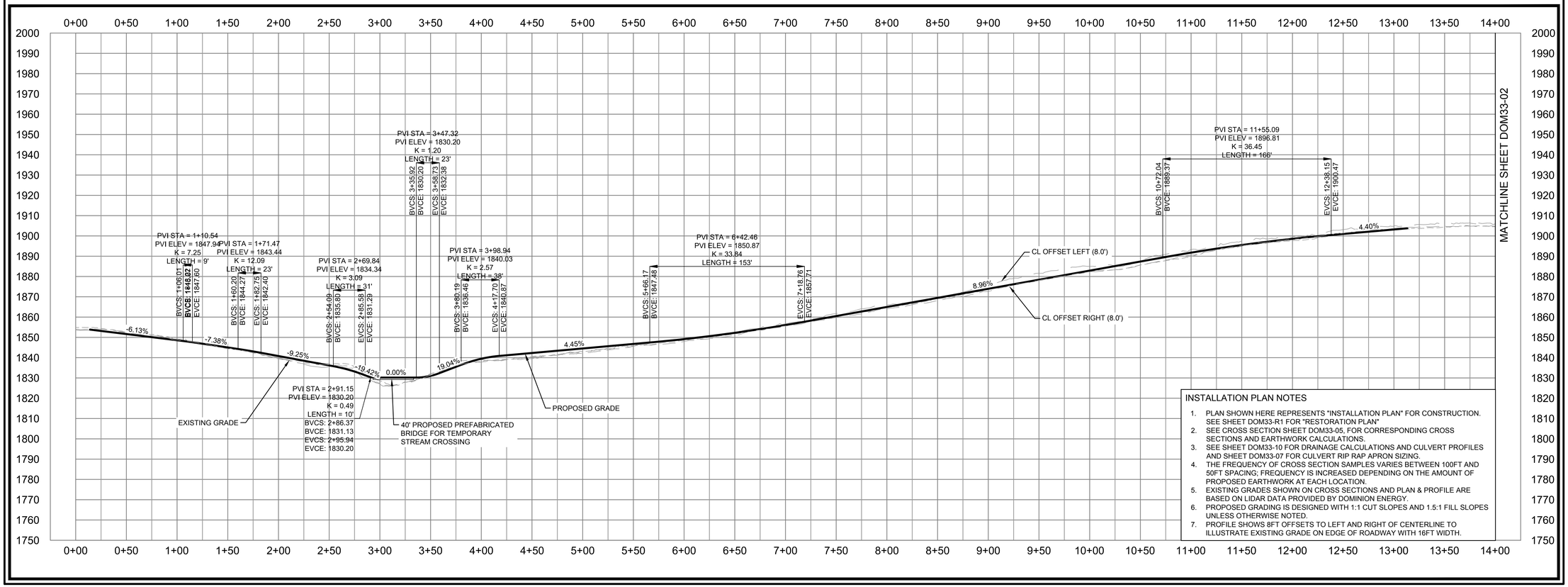
## INSTALLATION PLAN NOTES FOR MINOR ROADS

1. MINOR ROADS SHALL BE GRADED TO DRAIN EITHER BY DOZER OR ROAD GRADER TO MAINTAIN EXISTING DRAINAGE PATTERNS (E.G. OUTSLOPED OR INSLOPED TO ROADSIDE DITCH.)
2. EXISTING ROADSIDE DITCH LINES SHALL BE CLEANED AND GRADED TO DRAIN TO EXISTING STRUCTURES (CULVERTS, DIPS, ETC.) EXISTING LEAD-OFF DITCHES SHALL BE CLEANED AND GRADED TO DRAIN TO ENSURE TRANSPORT OF WATER OFF OF THE ROAD SURFACE TO OVERLAND FLOW IN THE ADJACENT AREA.
3. MINOR ROADS SHALL RECEIVE A MINIMUM OF 2" OF VDOT #21A COMPACTED AGGREGATE FOR INITIAL CONSTRUCTION AND SHALL RECEIVE A 2" CAP DURING THE RESTORATION PROCESS.
4. EXISTING GRADES SHOWN ON CROSS SECTIONS AND PLAN & PROFILE ARE BASED ON LIDAR DATA PROVIDED BY DOMINION ENERGY.
5. PROFILE SHOWS 8FT OFFSETS TO LEFT AND RIGHT OF CENTERLINE TO ILLUSTRATE EXISTING GRADE ON EDGE OF ROADWAY WITH 16FT WIDTH.




# INSTALLATION PLAN




## INSTALLATION PLAN NOTES

1. PLAN SHOWN HERE REPRESENTS "INSTALLATION PLAN" FOR CONSTRUCTION. SEE SHEET DOM33-R1 FOR "RESTORATION PLAN"
2. SEE CROSS SECTION SHEET DOM33-05, FOR CORRESPONDING CROSS SECTIONS AND EARTHWORK CALCULATIONS.
3. SEE SHEET DOM33-10 FOR DRAINAGE CALCULATIONS AND CULVERT PROFILES AND SHEET DOM33-07 FOR CULVERT RIP RAP APRON SIZING.
4. THE FREQUENCY OF CROSS SECTION SAMPLES VARIES BETWEEN 100FT AND 50FT SPACING; FREQUENCY IS INCREASED DEPENDING ON THE AMOUNT OF PROPOSED EARTHWORK AT EACH LOCATION.
5. EXISTING GRADES SHOWN ON CROSS SECTIONS AND PLAN & PROFILE ARE BASED ON LIDAR DATA PROVIDED BY DOMINION ENERGY.
6. PROPOSED GRADING IS DESIGNED WITH 1:1 CUT SLOPES AND 1.5:1 FILL SLOPES UNLESS OTHERWISE NOTED.
7. PROFILE SHOWS 8FT OFFSETS TO LEFT AND RIGHT OF CENTERLINE TO ILLUSTRATE EXISTING GRADE ON EDGE OF ROADWAY WITH 16FT WIDTH.


Dewberry

Dewberry Engineers Inc.
4805 LAKE BROOK DRIVE
SUITE 200
GLEN ALLEN, VA 23060
804.290.7957 (PHONE)
804.290.7928 ( FAX)


TRANSMISSION LINE REBUILD
PROJECT TL 550
CONSTRUCTION DOCUMENTS
GEORGE WASHINGTON NATIONAL FOREST
WEST VIRGINIA & VIRGINIA

SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE
0' 50' 100'
HORIZONTAL SCALE
0' 25' 50'
VERTICAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| 0 | 5/28/21 | ARB | DRAFT FOR REVIEW |

REVISIONS

DRAWN BY LAL
APPROVED BY
CHECKED BY ARB
DATE 05/28/2021

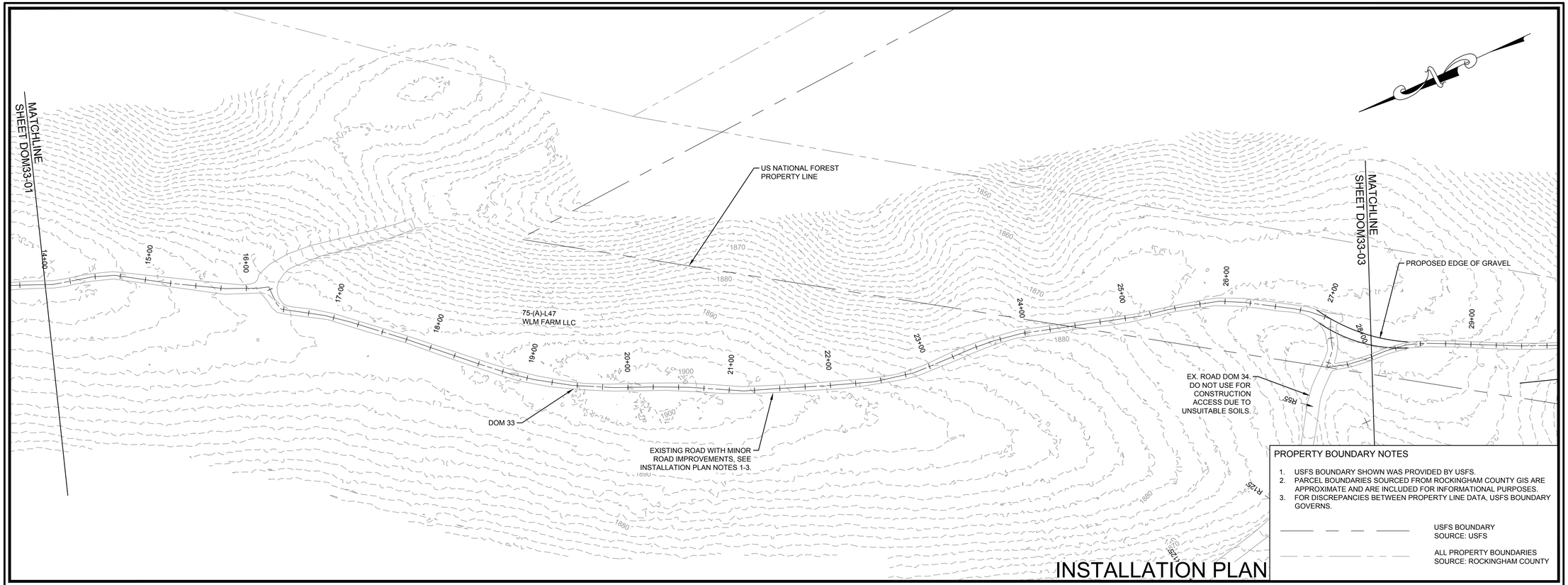
TITLE

DOM 33
PLAN & PROFILE

PROJECT NO. 50106442

DOM33-01

SHEET NO.



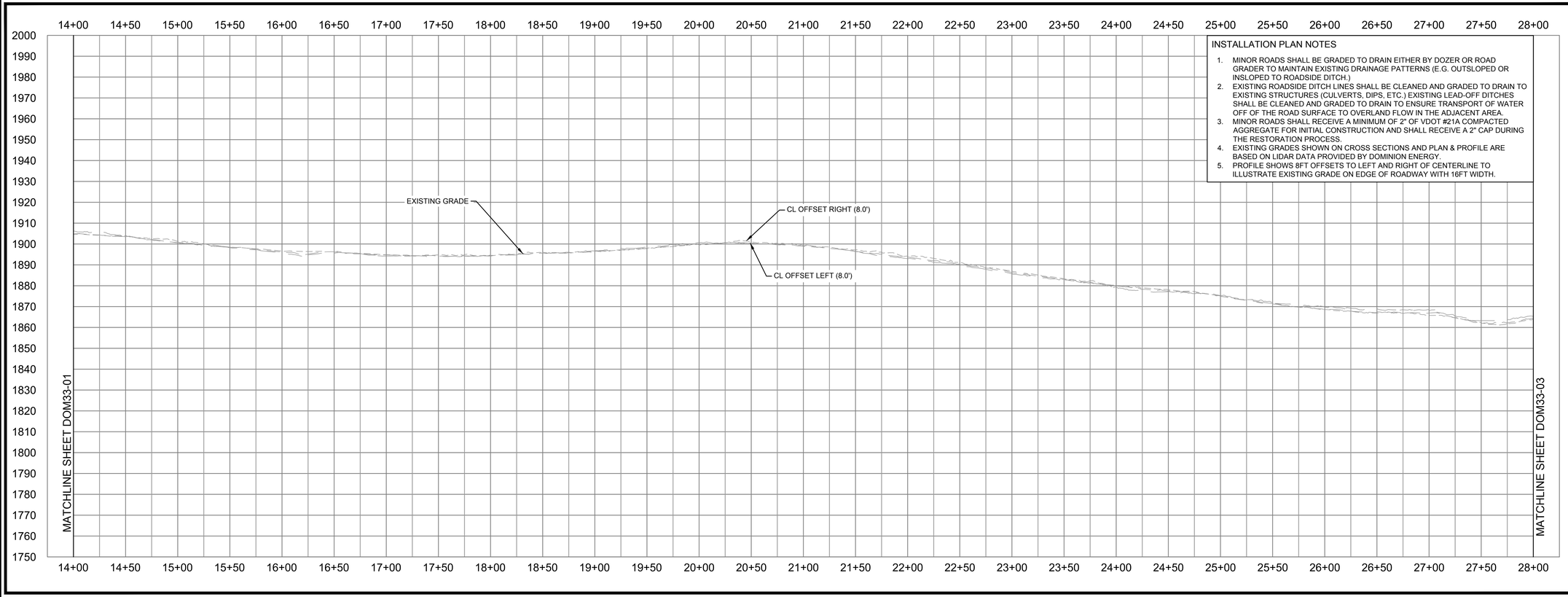

## INSTALLATION PLAN

### PROPERTY BOUNDARY NOTES

1. USFS BOUNDARY SHOWN WAS PROVIDED BY USFS.
2. PARCEL BOUNDARIES SOURCED FROM ROCKINGHAM COUNTY GIS ARE APPROXIMATE AND ARE INCLUDED FOR INFORMATIONAL PURPOSES.
3. FOR DISCREPANCIES BETWEEN PROPERTY LINE DATA, USFS BOUNDARY GOVERNS.

USFS BOUNDARY
SOURCE: USFS

ALL PROPERTY BOUNDARIES
SOURCE: ROCKINGHAM COUNTY




### INSTALLATION PLAN NOTES

1. MINOR ROADS SHALL BE GRADED TO DRAIN EITHER BY DOZER OR ROAD GRADER TO MAINTAIN EXISTING DRAINAGE PATTERNS (E.G. OUTSLOPED OR INSLOPED TO ROADSIDE DITCH.)
2. EXISTING ROADSIDE DITCH LINES SHALL BE CLEANED AND GRADED TO DRAIN TO EXISTING STRUCTURES (CULVERTS, DIPS, ETC.) EXISTING LEAD-OFF DITCHES SHALL BE CLEANED AND GRADED TO DRAIN TO ENSURE TRANSPORT OF WATER OFF OF THE ROAD SURFACE TO OVERLAND FLOW IN THE ADJACENT AREA.
3. MINOR ROADS SHALL RECEIVE A MINIMUM OF 2" OF VDOT #21A COMPACTED AGGREGATE FOR INITIAL CONSTRUCTION AND SHALL RECEIVE A 2" CAP DURING THE RESTORATION PROCESS.
4. EXISTING GRADES SHOWN ON CROSS SECTIONS AND PLAN & PROFILE ARE BASED ON LIDAR DATA PROVIDED BY DOMINION ENERGY.
5. PROFILE SHOWS 8FT OFFSETS TO LEFT AND RIGHT OF CENTERLINE TO ILLUSTRATE EXISTING GRADE ON EDGE OF ROADWAY WITH 16FT WIDTH.

Dewberry

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804.290.7928 ( FAX)

# TRANSMISSION LINE REBUILD
# PROJECT TL 550
# CONSTRUCTION DOCUMENTS

GEORGE WASHINGTON NATIONAL FOREST
WEST VIRGINIA & VIRGINIA

SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE
0' 50' 100'
HORIZONTAL SCALE
0' 25' 50'
VERTICAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| 0 | 5/28/21 | ARB | DRAFT FOR REVIEW |

REVISIONS

DRAWN BY LAL
APPROVED BY
CHECKED BY ARB
DATE 05/28/2021

TITLE

## DOM 33
## PLAN & PROFILE

PROJECT NO. 50106442

# DOM33-02

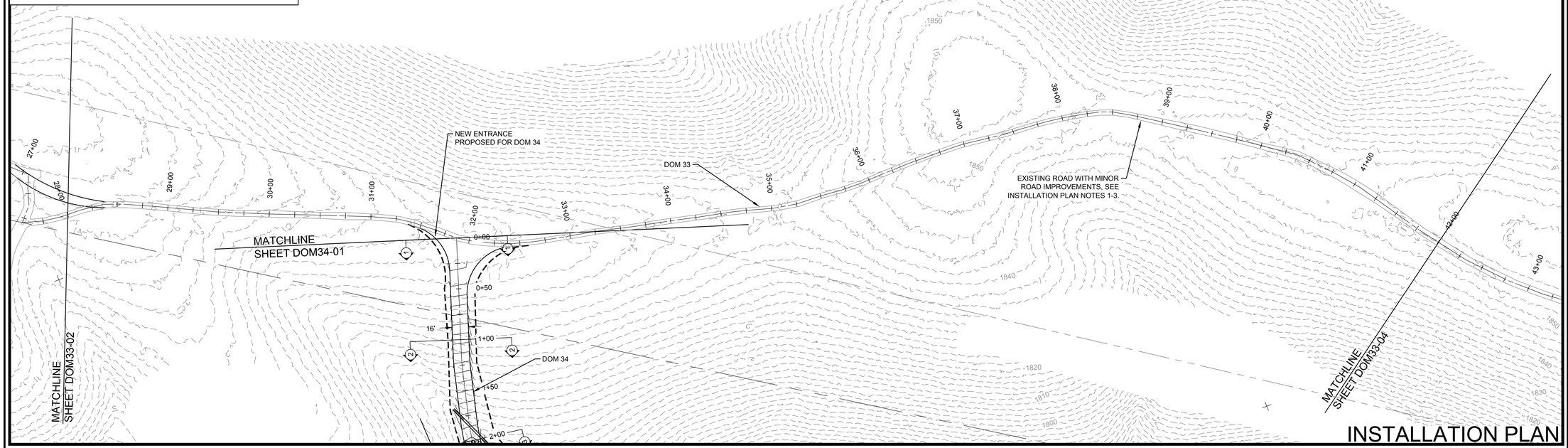
SHEET NO.

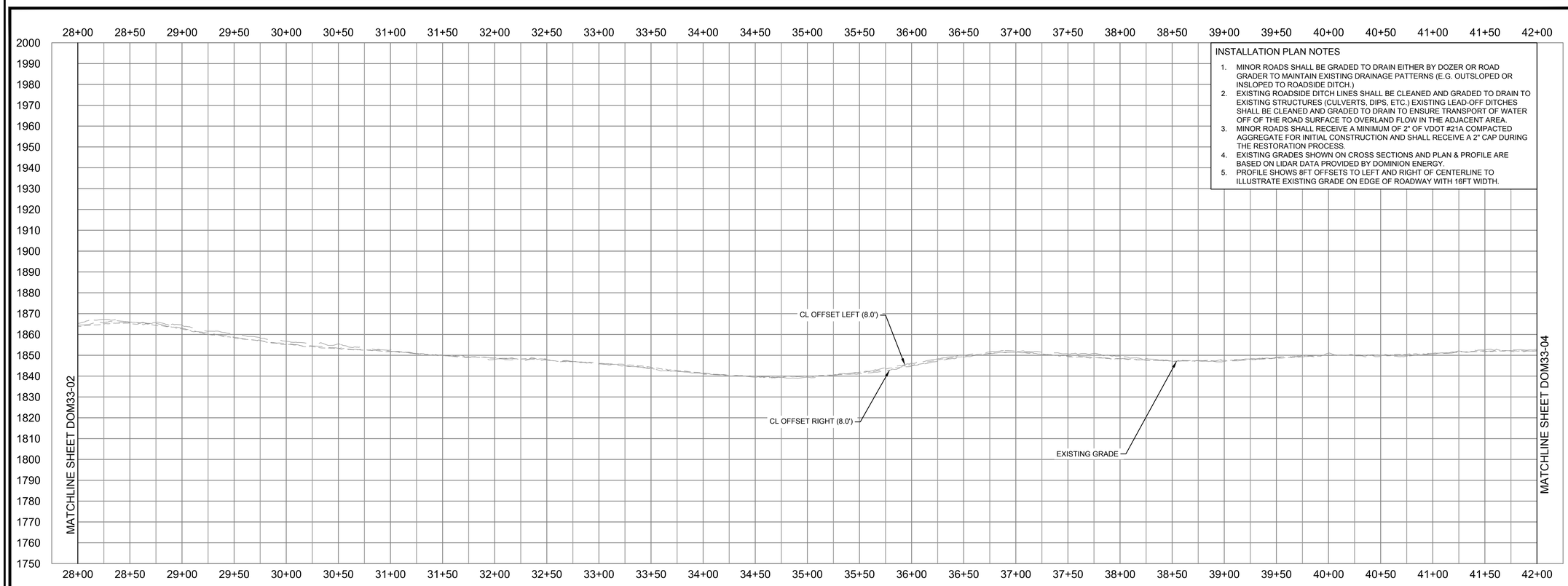
PROPERTY BOUNDARY NOTES

1. USFS BOUNDARY SHOWN WAS PROVIDED BY USFS.
2. PARCEL BOUNDARIES SOURCED FROM ROCKINGHAM COUNTY GIS ARE APPROXIMATE AND ARE INCLUDED FOR INFORMATIONAL PURPOSES.
3. FOR DISCREPANCIES BETWEEN PROPERTY LINE DATA, USFS BOUNDARY GOVERNS.

USFS BOUNDARY
SOURCE: USFS

ALL PROPERTY BOUNDARIES
SOURCE: ROCKINGHAM COUNTY




INSTALLATION PLAN NOTES

1. MINOR ROADS SHALL BE GRADED TO DRAIN EITHER BY DOZER OR ROAD GRADER TO MAINTAIN EXISTING DRAINAGE PATTERNS (E.G. OUTSLOPED OR INSLOPED TO ROADSIDE DITCH.)
2. EXISTING ROADSIDE DITCH LINES SHALL BE CLEANED AND GRADED TO DRAIN TO EXISTING STRUCTURES (CULVERTS, DIPS, ETC.) EXISTING LEAD-OFF DITCHES SHALL BE CLEANED AND GRADED TO DRAIN TO ENSURE TRANSPORT OF WATER OFF OF THE ROAD SURFACE TO OVERLAND FLOW IN THE ADJACENT AREA.
3. MINOR ROADS SHALL RECEIVE A MINIMUM OF 2" OF VDOT #21A COMPACTED AGGREGATE FOR INITIAL CONSTRUCTION AND SHALL RECEIVE A 2" CAP DURING THE RESTORATION PROCESS.
4. EXISTING GRADES SHOWN ON CROSS SECTIONS AND PLAN & PROFILE ARE BASED ON LIDAR DATA PROVIDED BY DOMINION ENERGY.
5. PROFILE SHOWS 8FT OFFSETS TO LEFT AND RIGHT OF CENTERLINE TO ILLUSTRATE EXISTING GRADE ON EDGE OF ROADWAY WITH 16FT WIDTH.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# TRANSMISSION LINE REBUILD
# PROJECT TL 550
# CONSTRUCTION DOCUMENTS

GEORGE WASHINGTON NATIONAL FOREST
WEST VIRGINIA & VIRGINIA

SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE
0' 50' 100'
HORIZONTAL SCALE
0' 25' 50'
VERTICAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| 0 | 5/28/21 | ARB | DRAFT FOR REVIEW |

REVISIONS

DRAWN BY LAL
APPROVED BY
CHECKED BY ARB
DATE 05/28/2021

TITLE

## DOM 33
## PLAN & PROFILE

PROJECT NO. 50106442

DOM33-03

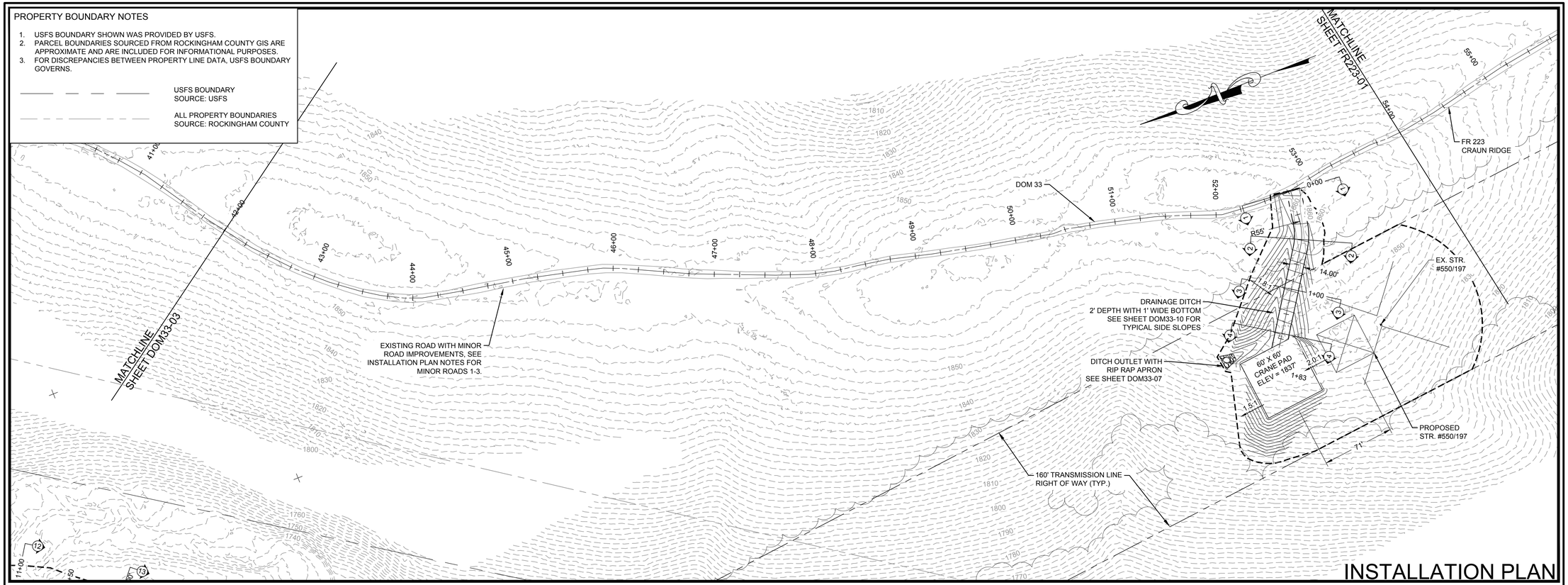
SHEET NO.

## PROPERTY BOUNDARY NOTES

1. USFS BOUNDARY SHOWN WAS PROVIDED BY USFS.
2. PARCEL BOUNDARIES SOURCED FROM ROCKINGHAM COUNTY GIS ARE APPROXIMATE AND ARE INCLUDED FOR INFORMATIONAL PURPOSES.
3. FOR DISCREPANCIES BETWEEN PROPERTY LINE DATA, USFS BOUNDARY GOVERNS.

USFS BOUNDARY
SOURCE: USFS

ALL PROPERTY BOUNDARIES
SOURCE: ROCKINGHAM COUNTY




## INSTALLATION PLAN

### INSTALLATION PLAN NOTES

1. PLAN SHOWN HERE REPRESENTS "INSTALLATION PLAN" FOR CONSTRUCTION. SEE SHEET DOM33-R1 FOR "RESTORATION PLAN"
2. SEE CROSS SECTION SHEET DOM33-05, FOR CORRESPONDING CROSS SECTIONS AND EARTHWORK CALCULATIONS.
3. SEE SHEET DOM33-10 FOR DRAINAGE CALCULATIONS AND CULVERT PROFILES AND SHEET DOM33-07 FOR CULVERT RIP RAP APRON SIZING.
4. THE FREQUENCY OF CROSS SECTION SAMPLES VARIES BETWEEN 100FT AND 50FT SPACING; FREQUENCY IS INCREASED DEPENDING ON THE AMOUNT OF PROPOSED EARTHWORK AT EACH LOCATION.
5. EXISTING GRADES SHOWN ON CROSS SECTIONS AND PLAN & PROFILE ARE BASED ON LIDAR DATA PROVIDED BY DOMINION ENERGY.
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### INSTALLATION PLAN NOTES FOR MINOR ROADS

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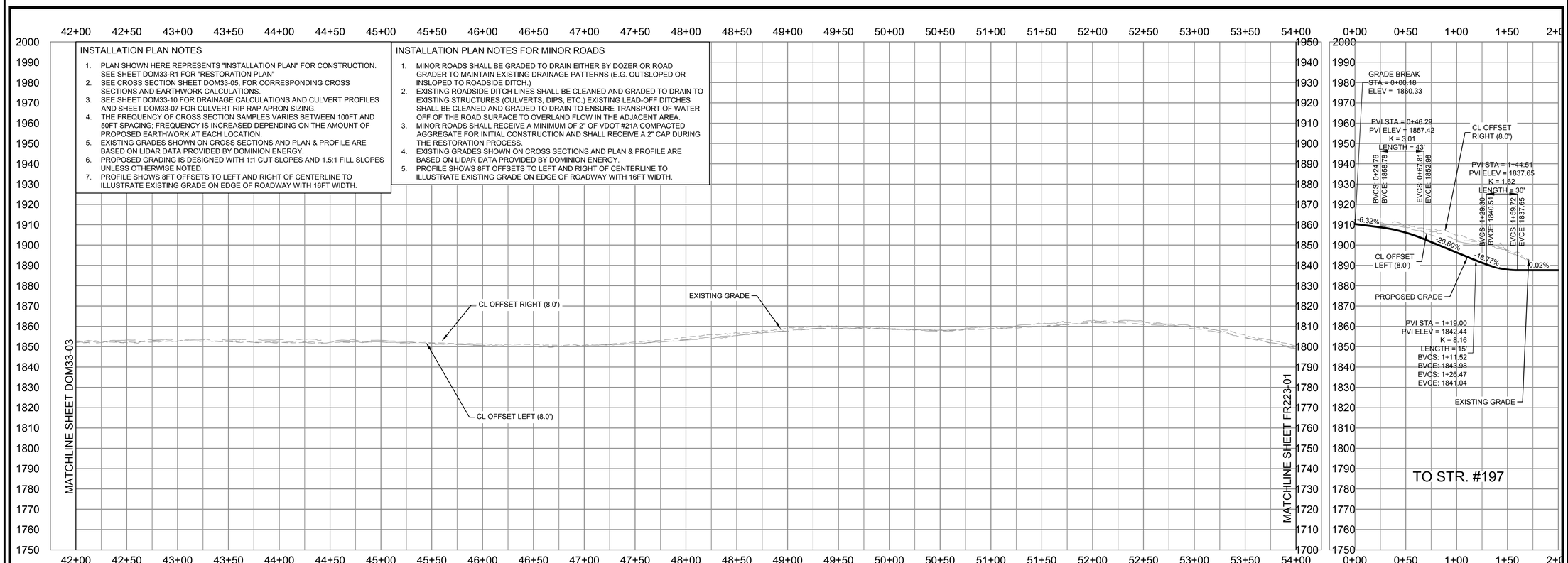



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# TRANSMISSION LINE REBUILD
# PROJECT TL 550
# CONSTRUCTION DOCUMENTS

GEORGE WASHINGTON NATIONAL FOREST
WEST VIRGINIA & VIRGINIA

SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE
0' 50' 100'
HORIZONTAL SCALE
0' 25' 50'
VERTICAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| 0 | 5/28/21 | ARB | DRAFT FOR REVIEW |

REVISIONS

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DATE 05/28/2021

TITLE

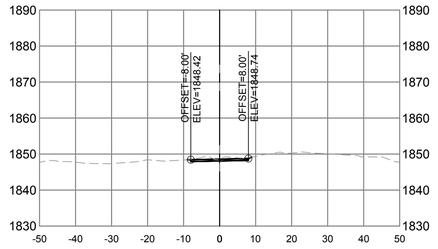
## DOM 33
## PLAN & PROFILE

PROJECT NO. 50106442

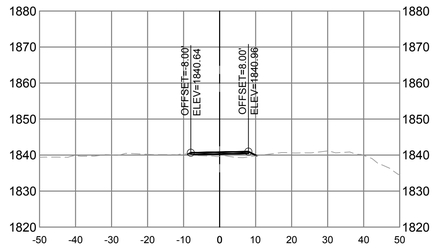
# DOM33-04

SHEET NO.

ROAD CE 50 #1, STATION 1+00.0




ROAD CE 50 #2, STATION 2+00.0

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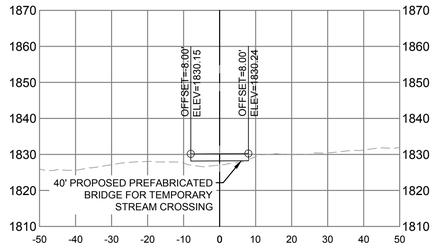
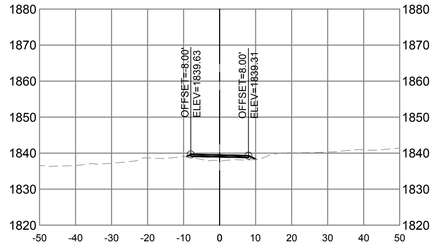
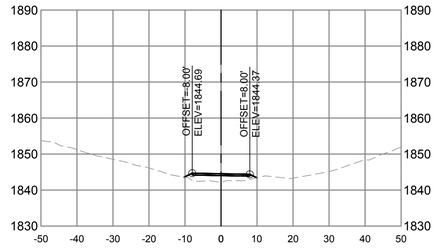


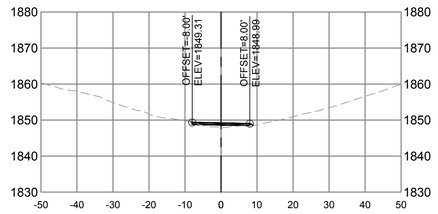

ROAD CE 50 #4, STATION 4+00.0



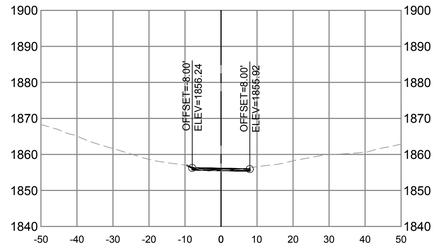

ROAD CE 50 #5, STATION 5+00.0



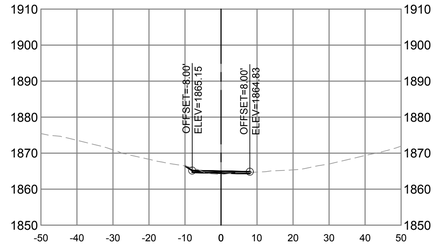

ROAD CE 50 #6, STATION 6+00.0



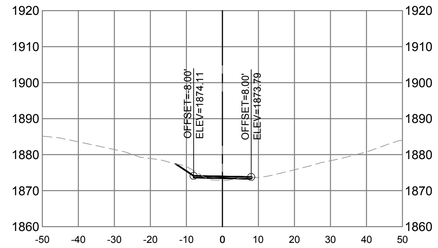

ROAD CE 50 #7, STATION 7+00.0



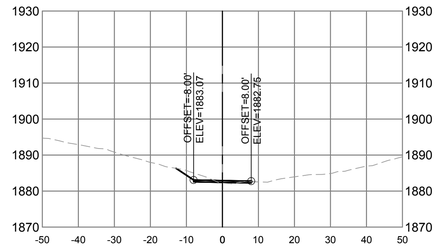

ROAD CE 50 #8, STATION 8+00.0



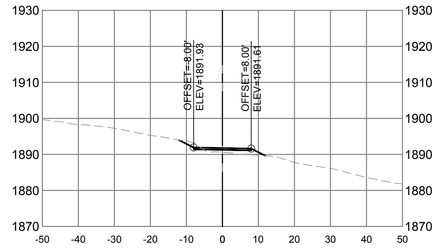

ROAD CE 50 #9, STATION 9+00.0



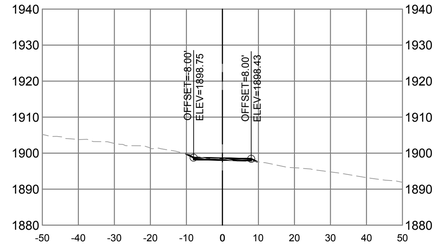

ROAD CE 50 #10, STATION 10+00.0



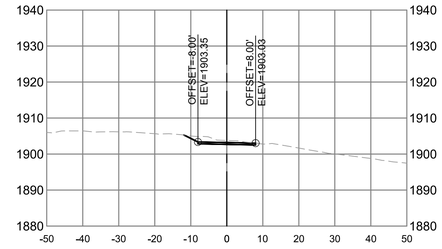

ROAD CE 50 #11, STATION 11+00.0



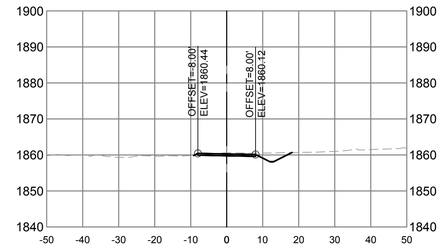

ROAD CE 50 #12, STATION 12+00.0



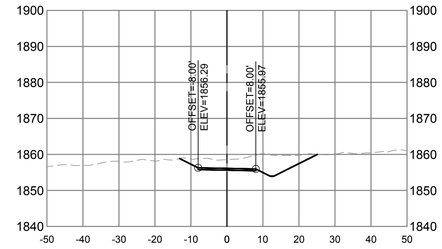

ROAD CE 50 #13, STATION 13+00.0




ROAD CE 50 DOM 33 #1, STATION 0+01.0




ROAD CE 50 DOM 33 #2, STATION 0+50.0




**DOM 33 INSTALLATION PLAN EARTHWORK CALCULATIONS**

| | CUT (CY) | FILL (CY) | NET (CY) |
|---|---|---|---|
| DOM 33 ROAD IMPROVEMENT | 2129 | 620 | 1509 (CUT) |
| INSTALL DOM 33 CRANE PAD | 579 | 1332 | 753 (FILL) |
| INSTALLATION TOTALS | 2708 | 1952 | 756 (CUT) |

NOTES

1. SEE PLAN & PROFILE SHEETS, DOM33-01-DOM33-05 FOR CORRESPONDING CROSS SECTION NUMBER AND ROAD STATION.
2. CROSS SECTIONS SHOWN ON PLANS ARE FOR PURPOSES OF DESIGN, CONSTRUCTION, AND REVIEW.
3. THE ABOVE CUT/FILL SUMMARY TABLE IS NOT DEPENDENT ON CROSS SECTION FREQUENCY (I.E. AVERAGE END AREA METHOD). THE CUT/FILL SUMMARY TABLE IS DEVELOPED BASED ON 3D MODELING (COMPOSITE VOLUMES) OF THE EXISTING AND PROPOSED GRADES.
4. THE FREQUENCY OF CROSS SECTION SAMPLES VARIES BETWEEN 100FT AND 50FT SPACING; FREQUENCY IS INCREASED DEPENDING ON THE AMOUNT OF PROPOSED EARTHWORK AT EACH LOCATION.
5. EXISTING GRADES SHOWN ON CROSS SECTIONS AND PLAN & PROFILE ARE BASED ON LIDAR DATA PROVIDED BY DOMINION ENERGY.
6. EXCESS MATERIALS SHALL BE STORED IN TEMPORARY STOCKPILE AREAS AS SHOWN ON ROAD PLANS FOR CE50.
7. SEE DOM33-R1 FOR RESTORATION EARTHWORK CALCULATIONS AND TOTAL CALCULATIONS.

Dewberry

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TRANSMISSION LINE REBUILD
PROJECT TL 550
CONSTRUCTION DOCUMENTS
GEORGE WASHINGTON NATIONAL FOREST
WEST VIRGINIA & VIRGINIA

SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE
0' 20' 40'
HORIZONTAL SCALE
0' 20' 40'
HORIZONTAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| 0 | 5/28/21 | ARB | DRAFT FOR REVIEW |

REVISIONS

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APPROVED BY
CHECKED BY ARB
DATE 05/28/2021

TITLE

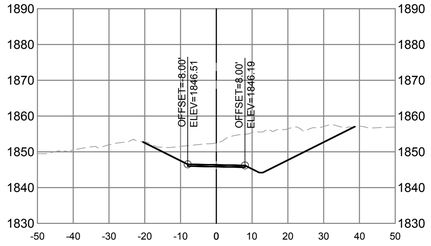
DOM 33
CROSS SECTIONS

PROJECT NO. 50106442

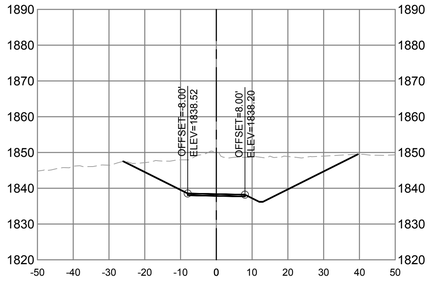
DOM33-05

SHEET NO.

ROAD CE 50 DOM 33 #3, STATION 1+00.0




ROAD CE 50 DOM 33 #4, STATION 1+44.5

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TRANSMISSION LINE REBUILD
PROJECT TL 550
CONSTRUCTION DOCUMENTS
GEORGE WASHINGTON NATIONAL FOREST
WEST VIRGINIA & VIRGINIA

SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE

0' 20' 40'
HORIZONTAL SCALE

0' 20' 40'
HORIZONTAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| 0 | 5/28/21 | ARB | DRAFT FOR REVIEW |

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DATE 05/28/2021

TITLE

DOM 33
CROSS SECTIONS

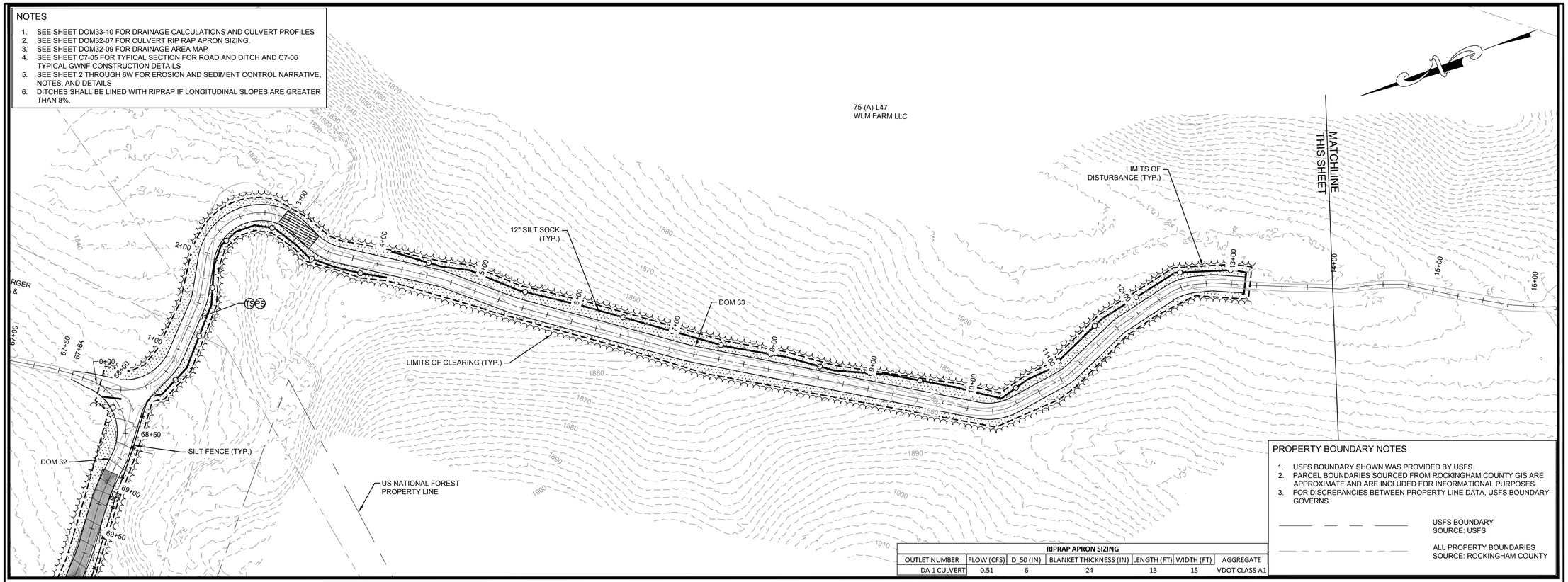
PROJECT NO. 50106442

DOM33-06

SHEET NO.

NOTES

1. SEE SHEET DOM33-10 FOR DRAINAGE CALCULATIONS AND CULVERT PROFILES
2. SEE SHEET DOM32-07 FOR CULVERT RIP RAP APRON SIZING.
3. SEE SHEET DOM32-09 FOR DRAINAGE AREA MAP
4. SEE SHEET C7-05 FOR TYPICAL SECTION FOR ROAD AND DITCH AND C7-06 TYPICAL GWNF CONSTRUCTION DETAILS
5. SEE SHEET 2 THROUGH 6W FOR EROSION AND SEDIMENT CONTROL NARRATIVE, NOTES, AND DETAILS
6. DITCHES SHALL BE LINED WITH RIPRAP IF LONGITUDINAL SLOPES ARE GREATER THAN 8%.




| RIPRAP APRON SIZING | | | | | | |
|---|---|---|---|---|---|---|
| OUTLET NUMBER | FLOW (CFS) | D_50 (IN) | BLANKET THICKNESS (IN) | LENGTH (FT) | WIDTH (FT) | AGGREGATE |
| DA 1 CULVERT | 0.51 | 6 | 24 | 13 | 15 | VDOT CLASS A1 |

PROPERTY BOUNDARY NOTES

1. USFS BOUNDARY SHOWN WAS PROVIDED BY USFS.
2. PARCEL BOUNDARIES SOURCED FROM ROCKINGHAM COUNTY GIS ARE APPROXIMATE AND ARE INCLUDED FOR INFORMATIONAL PURPOSES.
3. FOR DISCREPANCIES BETWEEN PROPERTY LINE DATA, USFS BOUNDARY GOVERNS.

USFS BOUNDARY
SOURCE: USFS

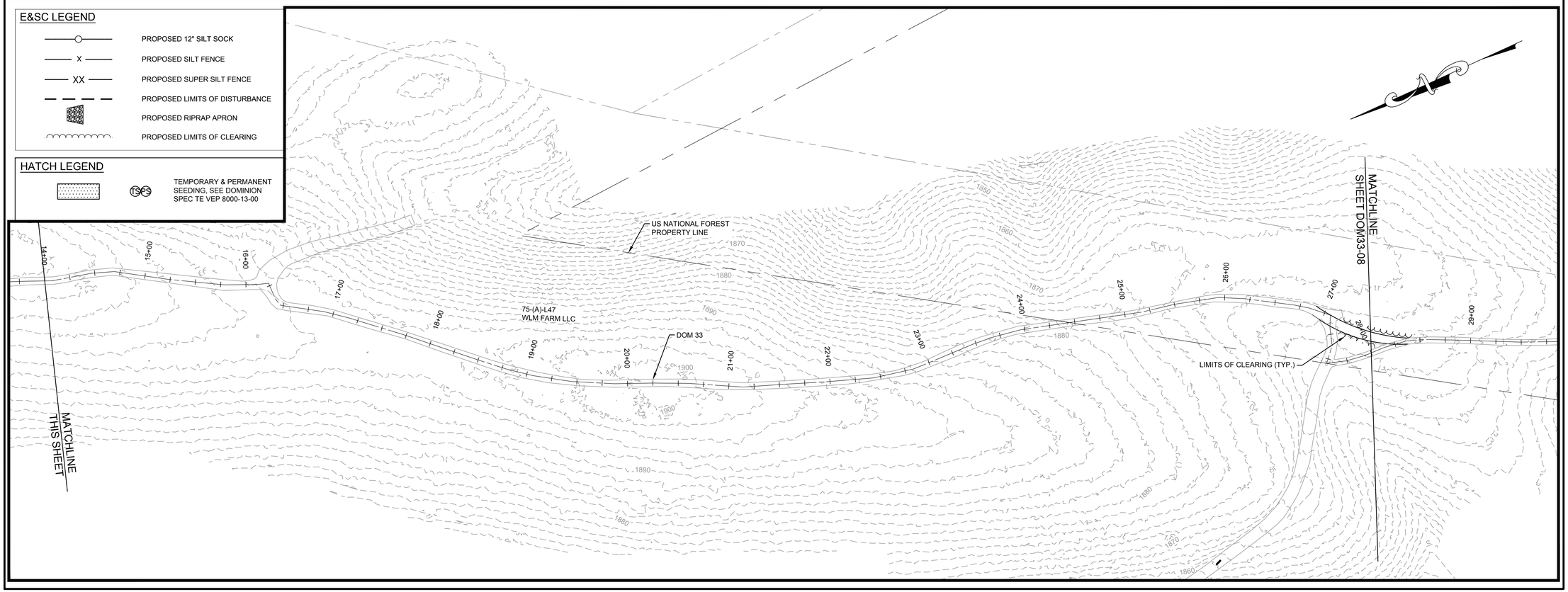
ALL PROPERTY BOUNDARIES
SOURCE: ROCKINGHAM COUNTY

E&SC LEGEND

- PROPOSED 12" SILT SOCK
- X — PROPOSED SILT FENCE
- XX — PROPOSED SUPER SILT FENCE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED RIPRAP APRON
- PROPOSED LIMITS OF CLEARING

HATCH LEGEND

- TSCS — TEMPORARY & PERMANENT SEEDING, SEE DOMINION SPEC TE VEP 8000-13-00





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# TRANSMISSION LINE REBUILD
# PROJECT TL 550
# CONSTRUCTION DOCUMENTS

GEORGE WASHINGTON NATIONAL FOREST
WEST VIRGINIA & VIRGINIA

SEAL

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE

0' 50' 100'
HORIZONTAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| 0 | 5/28/21 | ARB | DRAFT FOR REVIEW |

REVISIONS

DRAWN BY: LAL
APPROVED BY:
CHECKED BY: ARB
DATE: 05/28/2021

TITLE

## DOM 33
## E&SC PLAN

PROJECT NO. 50106442

# DOM33-07

SHEET NO.

## E&SC LEGEND

- PROPOSED 12" SILT SOCK
- PROPOSED SILT FENCE
- PROPOSED SUPER SILT FENCE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED RIPRAP APRON
- PROPOSED LIMITS OF CLEARING

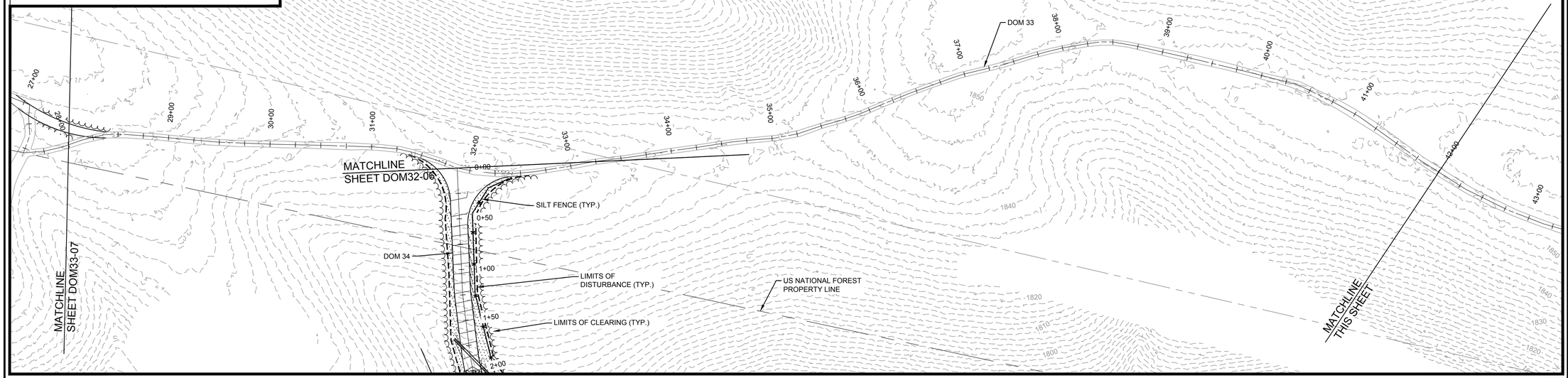
## HATCH LEGEND

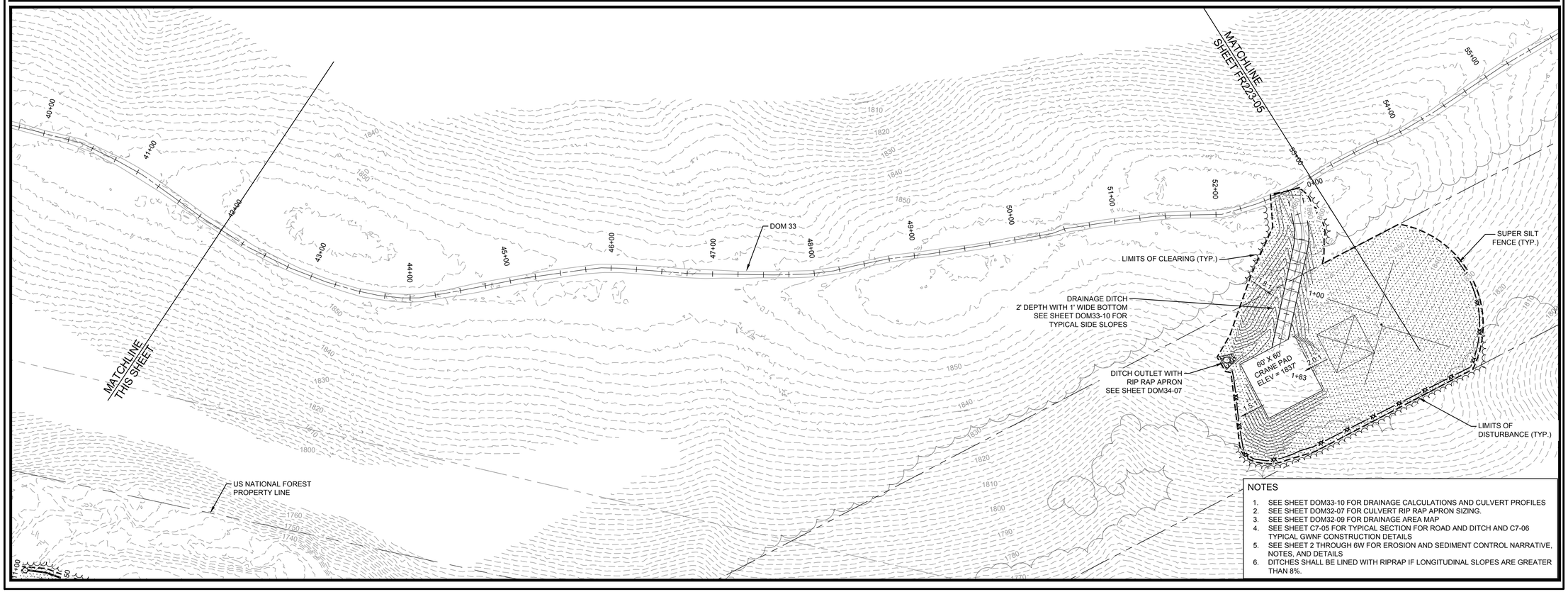
- TEMPORARY & PERMANENT SEEDING, SEE DOMINION SPEC TE VEP 8000-13-00

## PROPERTY BOUNDARY NOTES

1. USFS BOUNDARY SHOWN WAS PROVIDED BY USFS.
2. PARCEL BOUNDARIES SOURCED FROM ROCKINGHAM COUNTY GIS ARE APPROXIMATE AND ARE INCLUDED FOR INFORMATIONAL PURPOSES.
3. FOR DISCREPANCIES BETWEEN PROPERTY LINE DATA, USFS BOUNDARY GOVERNS.

- USFS BOUNDARY SOURCE: USFS
- ALL PROPERTY BOUNDARIES SOURCE: ROCKINGHAM COUNTY




## NOTES

1. SEE SHEET DOM33-10 FOR DRAINAGE CALCULATIONS AND CULVERT PROFILES
2. SEE SHEET DOM32-07 FOR CULVERT RIP RAP APRON SIZING.
3. SEE SHEET DOM32-09 FOR DRAINAGE AREA MAP
4. SEE SHEET C7-05 FOR TYPICAL SECTION FOR ROAD AND DITCH AND C7-06 TYPICAL GWNF CONSTRUCTION DETAILS
5. SEE SHEET 2 THROUGH 6W FOR EROSION AND SEDIMENT CONTROL NARRATIVE, NOTES, AND DETAILS
6. DITCHES SHALL BE LINED WITH RIPRAP IF LONGITUDINAL SLOPES ARE GREATER THAN 8%.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# TRANSMISSION LINE REBUILD
# PROJECT TL 550
# CONSTRUCTION DOCUMENTS

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WEST VIRGINIA & VIRGINIA

SEAL

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SCALE

0' 50' 100'
HORIZONTAL SCALE

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|---|---|
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| APPROVED BY | |
| CHECKED BY | ARB |
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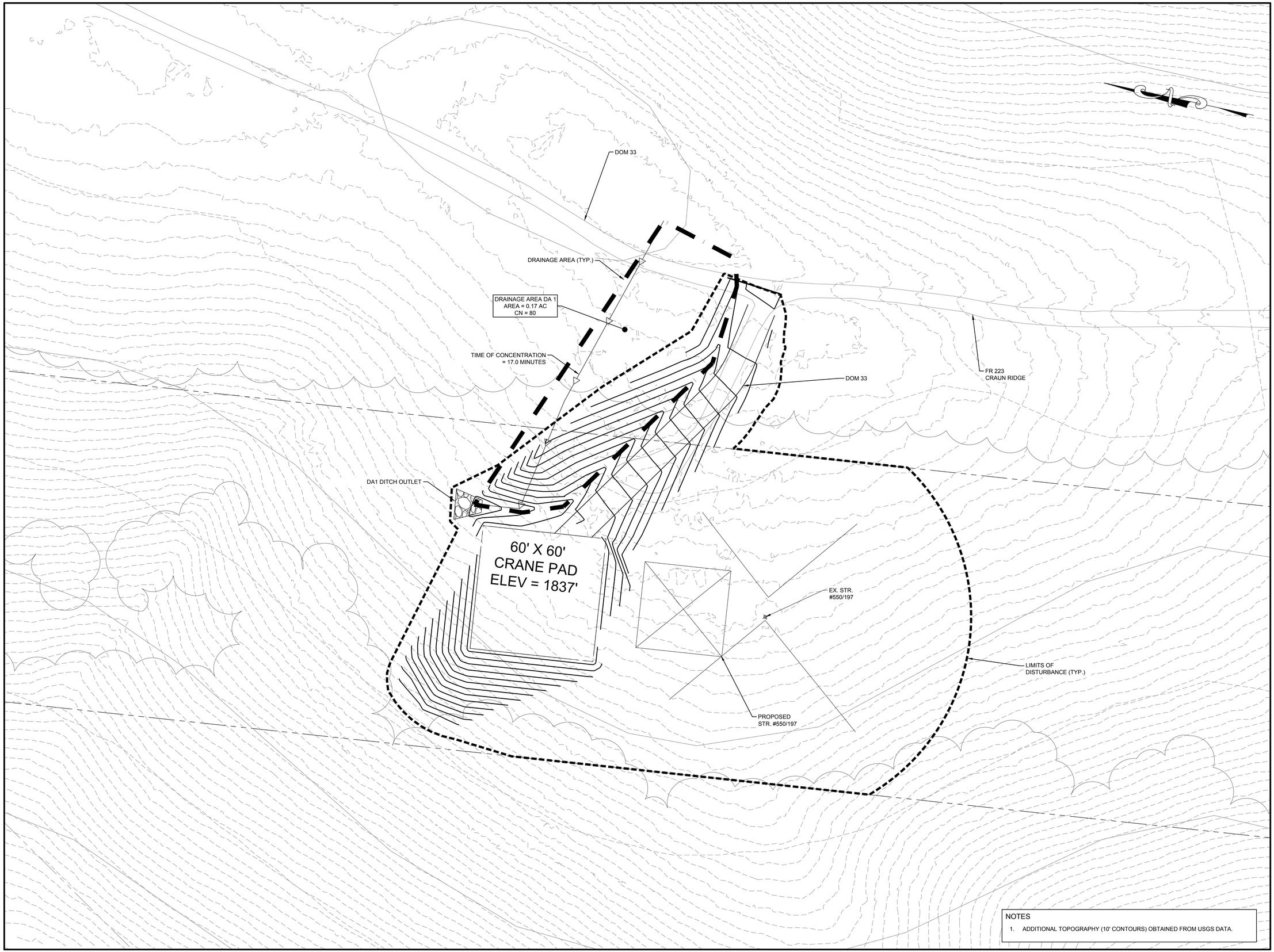
TITLE

## DOM 33
## E&SC PLAN

PROJECT NO. 50106442

# DOM33-08

SHEET NO.




NOTES

1. ADDITIONAL TOPOGRAPHY (10' CONTOURS) OBTAINED FROM USGS DATA.

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# TRANSMISSION LINE REBUILD
# PROJECT TL 550
# CONSTRUCTION DOCUMENTS

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WEST VIRGINIA & VIRGINIA

SEAL

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NOT FOR CONSTRUCTION

SCALE

0' 100' 200'
HORIZONTAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
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DATE 05/28/2021

TITLE

## DOM 33
## DRAINAGE AREA

PROJECT NO. 50106442

DOM33-09

SHEET NO.

LAL

TL 550 PHASE 3
Rockingham ZONE-1 NOAA-B County, Virginia

Hydrograph Peak/Peak Time Table

| Sub-Area or Reach Identifier | Peak Flow and Peak Time (hr) by Rainfall Return Period 10-Yr (cfs) (hr) | 25-Yr (cfs) (hr) |
|---|---|---|
| SUBAREAS | | |
| DOM 33 | 0.39<br>12.23 | 0.51<br>12.22 |
| REACHES | | |
| OUTLET | 0.39 | 0.51 |

LAL

TL 550 PHASE 3
Rockingham ZONE-1 NOAA-B County, Virginia

Sub-Area Land Use and Curve Number Details

| Sub-Area Identifier | Land Use | | Hydrologic Soil Group | Sub-Area (ac) | Curve Number |
|---|---|---|---|---|---|
| DOM 33 | Gravel (w/ right-of-way) | | D | .017 | 91 |
| | Woods - grass combination | (good) | D | .154 | 79 |
| | Total Area / Weighted Curve Number | | | .17 | 80 |
| | | | | === | == |

LAL

TL 550 PHASE 3
Rockingham ZONE-1 NOAA-B County, Virginia

Sub-Area Time of Concentration Details

| Sub-Area Identifier/ | Flow Length (ft) | Slope (ft/ft) | Mannings's n | End Area (sq ft) | Wetted Perimeter (ft) | Velocity (ft/sec) | Travel Time (hr) |
|---|---|---|---|---|---|---|---|
| DOM 33 | | | | | | | |
| SHEET | 100 | 0.1741 | 0.800 | | | | 0.280 |
| SHALLOW | 78 | 0.1741 | 0.050 | | | | 0.003 |
| | | | | Time of Concentration | | | .283 |
| | | | | | | | ======== |

**Cross Section for DA1-DITCH**

| | |
|---|---|
| Project Description | |
| Friction Method | Manning Formula |
| Solve For | Normal Depth |
| **Input Data** | |
| Roughness Coefficient | 0.018 |
| Channel Slope | 0.141 ft/ft |
| Normal Depth | 1.0 in |
| Left Side Slope | 2.000 H:V |
| Right Side Slope | 2.000 H:V |
| Bottom Width | 1.00 ft |
| Discharge | 0.51 cfs |



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CHECKED BY ARB
DATE 05/28/2021

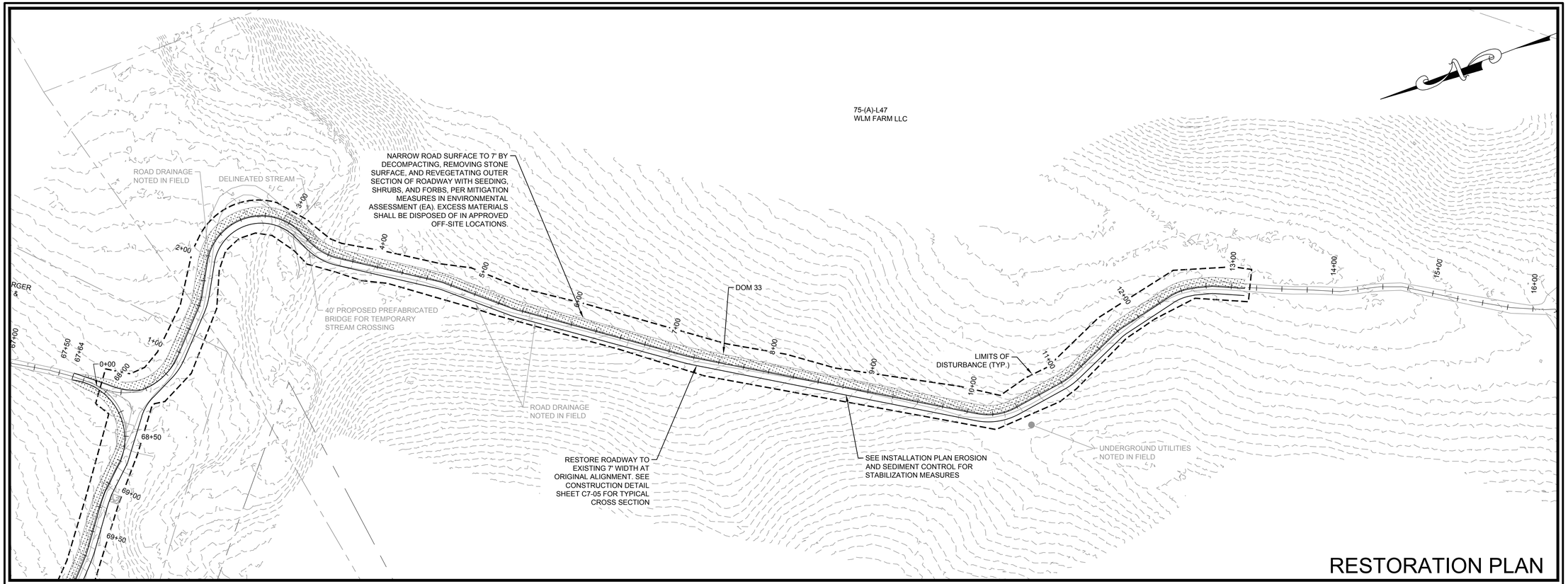
TITLE

DOM 33
DRAINAGE CALCS

PROJECT NO. 50106442

DOM33-10

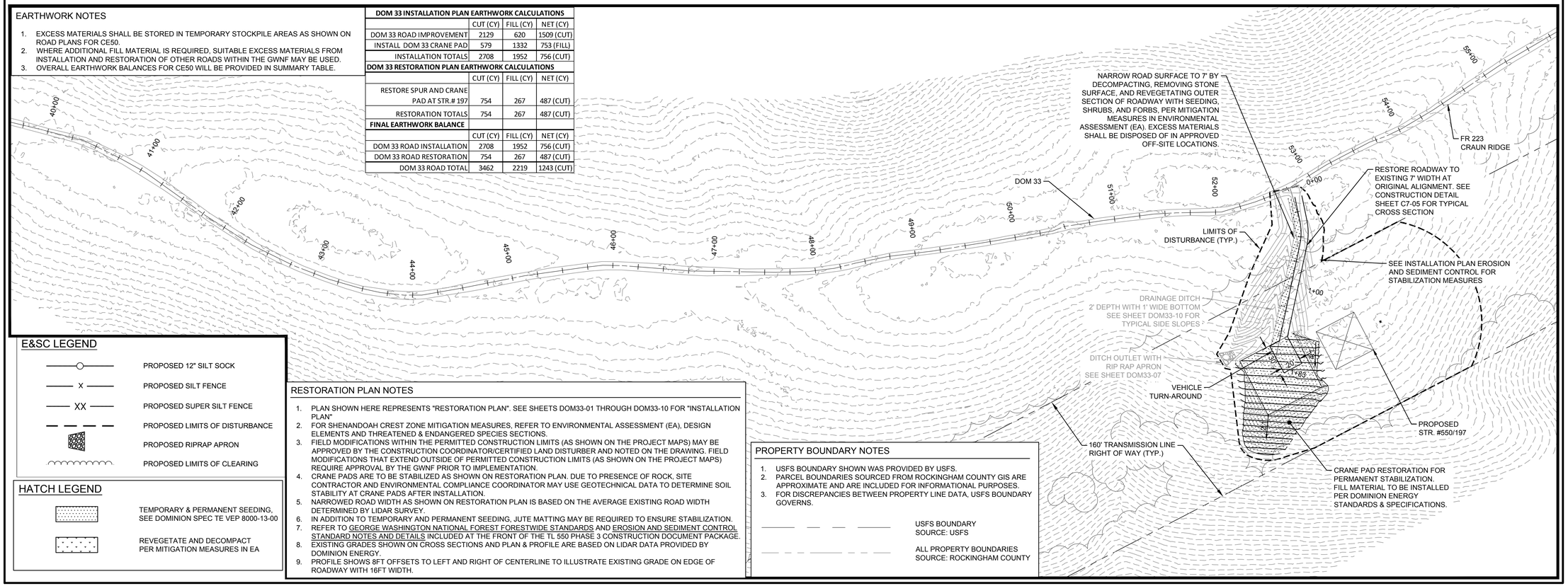
SHEET NO.




## EARTHWORK NOTES

1. EXCESS MATERIALS SHALL BE STORED IN TEMPORARY STOCKPILE AREAS AS SHOWN ON ROAD PLANS FOR CE50.
2. WHERE ADDITIONAL FILL MATERIAL IS REQUIRED, SUITABLE EXCESS MATERIALS FROM INSTALLATION AND RESTORATION OF OTHER ROADS WITHIN THE GWNF MAY BE USED.
3. OVERALL EARTHWORK BALANCES FOR CE50 WILL BE PROVIDED IN SUMMARY TABLE.

| DOM 33 INSTALLATION PLAN EARTHWORK CALCULATIONS | | | |
|---|---|---|---|
| | CUT (CY) | FILL (CY) | NET (CY) |
| DOM 33 ROAD IMPROVEMENT | 2129 | 620 | 1509 (CUT) |
| INSTALL DOM 33 CRANE PAD | 579 | 1332 | 753 (FILL) |
| INSTALLATION TOTALS | 2708 | 1952 | 756 (CUT) |
| **DOM 33 RESTORATION PLAN EARTHWORK CALCULATIONS** | | | |
| | CUT (CY) | FILL (CY) | NET (CY) |
| RESTORE SPUR AND CRANE PAD AT STR.# 197 | 754 | 267 | 487 (CUT) |
| RESTORATION TOTALS | 754 | 267 | 487 (CUT) |
| **FINAL EARTHWORK BALANCE** | | | |
| | CUT (CY) | FILL (CY) | NET (CY) |
| DOM 33 ROAD INSTALLATION | 2708 | 1952 | 756 (CUT) |
| DOM 33 ROAD RESTORATION | 754 | 267 | 487 (CUT) |
| DOM 33 ROAD TOTAL | 3462 | 2219 | 1243 (CUT) |




## E&SC LEGEND

- PROPOSED 12" SILT SOCK
- X — PROPOSED SILT FENCE
- XX — PROPOSED SUPER SILT FENCE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED RIPRAP APRON
- PROPOSED LIMITS OF CLEARING

## HATCH LEGEND

- TEMPORARY & PERMANENT SEEDING, SEE DOMINION SPEC TE VEP 8000-13-00
- REVEGETATE AND DECOMPACT PER MITIGATION MEASURES IN EA

## RESTORATION PLAN NOTES

1. PLAN SHOWN HERE REPRESENTS "RESTORATION PLAN". SEE SHEETS DOM33-01 THROUGH DOM33-10 FOR "INSTALLATION PLAN"
2. FOR SHENANDOAH CREST ZONE MITIGATION MEASURES, REFER TO ENVIRONMENTAL ASSESSMENT (EA), DESIGN ELEMENTS AND THREATENED & ENDANGERED SPECIES SECTIONS.
3. FIELD MODIFICATIONS WITHIN THE PERMITTED CONSTRUCTION LIMITS (AS SHOWN ON THE PROJECT MAPS) MAY BE APPROVED BY THE CONSTRUCTION COORDINATOR/CERTIFIED LAND DISTURBER AND NOTED ON THE DRAWING. FIELD MODIFICATIONS THAT EXTEND OUTSIDE OF PERMITTED CONSTRUCTION LIMITS (AS SHOWN ON THE PROJECT MAPS) REQUIRE APPROVAL BY THE GWNF PRIOR TO IMPLEMENTATION.
4. CRANE PADS ARE TO BE STABILIZED AS SHOWN ON RESTORATION PLAN. DUE TO PRESENCE OF ROCK, SITE CONTRACTOR AND ENVIRONMENTAL COMPLIANCE COORDINATOR MAY USE GEOTECHNICAL DATA TO DETERMINE SOIL STABILITY AT CRANE PADS AFTER INSTALLATION.
5. NARROWED ROAD WIDTH AS SHOWN ON RESTORATION PLAN IS BASED ON THE AVERAGE EXISTING ROAD WIDTH DETERMINED BY LIDAR SURVEY.
6. IN ADDITION TO TEMPORARY AND PERMANENT SEEDING, JUTE MATTING MAY BE REQUIRED TO ENSURE STABILIZATION.
7. REFER TO GEORGE WASHINGTON NATIONAL FOREST FORESTWIDE STANDARDS AND EROSION AND SEDIMENT CONTROL STANDARD NOTES AND DETAILS INCLUDED AT THE FRONT OF THE TL 550 PHASE 3 CONSTRUCTION DOCUMENT PACKAGE.
8. EXISTING GRADES SHOWN ON CROSS SECTIONS AND PLAN & PROFILE ARE BASED ON LIDAR DATA PROVIDED BY DOMINION ENERGY.
9. PROFILE SHOWS 8FT OFFSETS TO LEFT AND RIGHT OF CENTERLINE TO ILLUSTRATE EXISTING GRADE ON EDGE OF ROADWAY WITH 16FT WIDTH.

## PROPERTY BOUNDARY NOTES

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- ALL PROPERTY BOUNDARIES SOURCE: ROCKINGHAM COUNTY

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SEAL

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SCALE
0' 50' 100'
HORIZONTAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
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REVISIONS

DRAWN BY LAL
APPROVED BY
CHECKED BY ARB
DATE 06/01/2021

TITLE

## DOM 33 RESTORATION PLAN

PROJECT NO. 50106442

# DOM33-R1

SHEET NO.